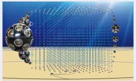
Neutrino mass ordering determination through combined analysis with JUNO and KM3NeT/ORCA

João Pedro A. M. de André[1*], Nhan Chau[2‡], Marcos Dracos[1], Leonidas N. Kalousis[1], Antoine Kouchner[2], Véronique Van Elewyck[2] for the KM3NeT Collaboration and members of the JUNO Collaboration

[1]IPHC CNRS/IN2P3, Strasbourg, France [2]APC CNRS/IN2P3, Paris, France *jpandre@iphc.cnrs.fr ‡nchau@apc.in2p3.fr

KM3NeT/ORCA overview [1, T1245]



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  - Water Cherenkov detector arrays
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  - Detect atmospheric neutrinos in GeV energy range
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Table: Baseline and optimistic scenarios for the treatment of systematics considered in the ORCA analysis.

Parameter	Baseline scenario	Optimistic scenario
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Effective area scale	×	10% prior
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Flux spectral index	free	
NC normalization	10% prior	

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  - Different neutrino sources and energy
  - Different detection medium and methods
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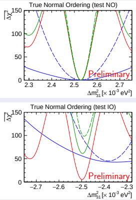
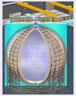


Figure: $\overline{\Delta\chi^2}$ profile for only JUNO (red), only ORCA (blue), and the combination of JUNO and ORCA (green) for 6 years of data taking assuming baseline (solid) or optimistic (dashed) systematics.

JUNO overview [2, T1209]



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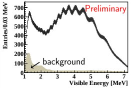

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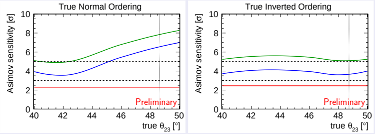

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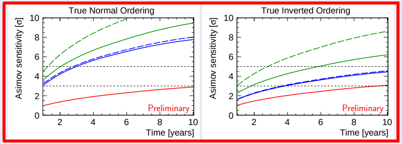

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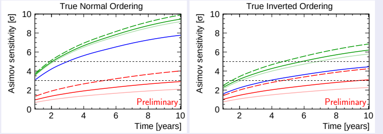

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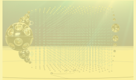

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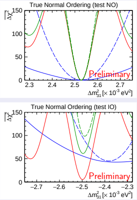

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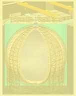

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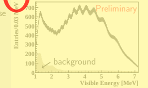

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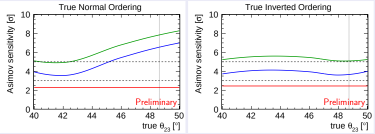

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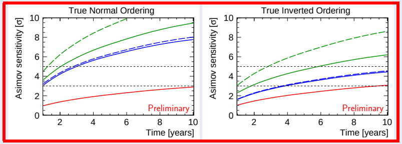

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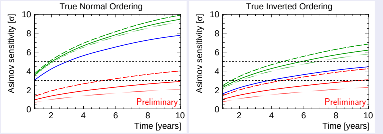

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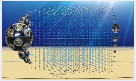

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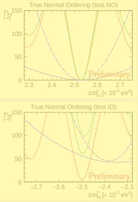

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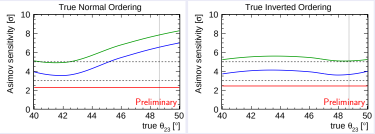

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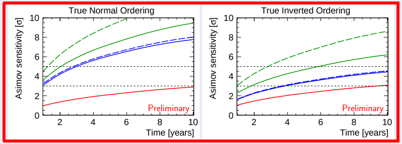

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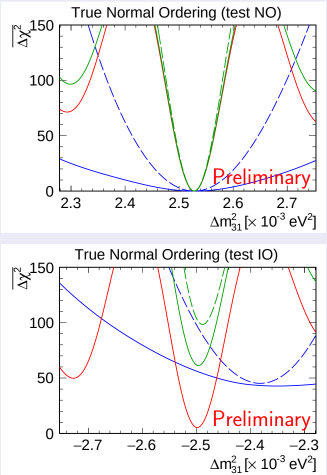

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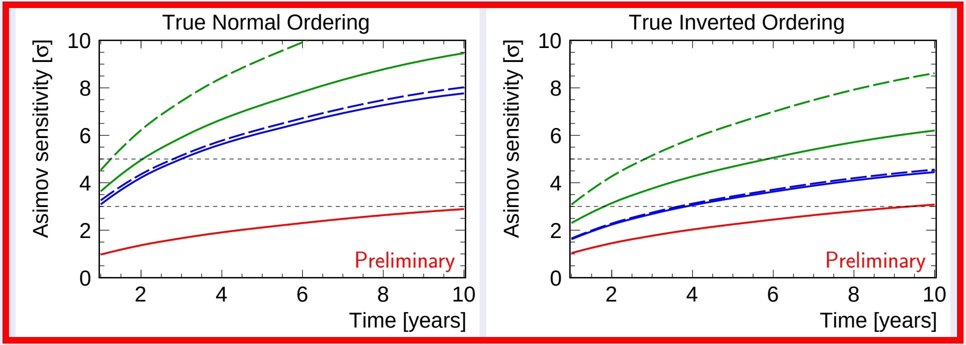

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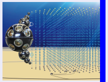

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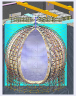

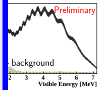

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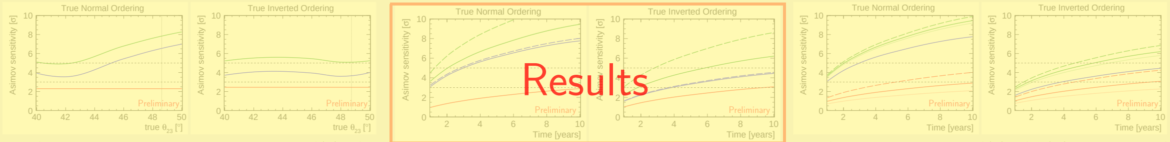

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